

IN THE CLAIMS

Please amend the claims as follows:

Claim 1 (Original): An inductive device comprising:

an organic core board having a core material;

a plurality of band-shaped conductor patterns formed on front and rear surfaces of said organic core board; and

bridging conductor patterns formed on cut surfaces of said organic core board sliced transversely with respect to said band-shaped conductor patterns so that exposed end portions of said band-shaped conductor patterns on each of said cut surfaces of said organic core board are connected to one another by said bridging conductor patterns to thereby provide at least one helical coil.

Claim 2 (Original): An inductive device comprising:

an organic core board having a core material;

a plurality of band-shaped conductor patterns formed on front and rear surfaces of said organic core board;

electrically insulating layers formed on said front and rear surfaces of said organic core board so that said band-shaped conductor patterns are covered with said electrically insulating layers; and

bridging conductor patterns formed on cut surfaces of said organic core board sliced transversely with respect to said band-shaped conductor patterns so that exposed end portions of said band-shaped conductor patterns on each of said cut surfaces of said organic core board are connected to one another by said bridging conductor patterns to thereby provide at least one helical coil.

Claim 3 (Original): An inductive device comprising:

a plurality of core boards;

a plurality of band-shaped conductor patterns formed on a surface of each of said core boards;

electrically insulating layers through which said plurality of core boards are integrally laminated to form a laminated board; and

bridging conductor patterns formed on cut surfaces of said laminated board sliced transversely with respect to said band-shaped conductor patterns so that exposed end portions of said band-shaped conductor patterns on each of said cut surfaces of said laminated board are connected to one another by said bridging conductor patterns to thereby provide at least one helical coil.

Claim 4 (Original): An inductive device comprising:

a plurality of core boards;

a plurality of band-shaped conductor patterns formed on a surface of each of said core boards;

an electrically insulating layer formed on said surface of each of said core boards so that said band-shaped conductor patterns are covered with said electrically insulating layer;

adhesive layers through which said plurality of core boards are integrally laminated to form a laminated board; and

bridging conductor patterns formed on cut surfaces of said laminated board sliced transversely with respect to said band-shaped conductor patterns so that exposed end portions of said band-shaped conductor patterns on each of said cut surfaces of said laminated board are connected to one another by said bridging conductor patterns to thereby provide at least one helical coil.

Claim 5 (Original): An inductive device according to any one of Claims 1 through 4, wherein a surface of each core board on which said band-shaped conductor patterns are formed is smooth.

Claim 6 (Original): An inductive device according to any one of Claims 1 through 4, wherein each core board and/or each electrically insulating layer is made of a vinyl benzyl resin or contains a vinyl benzyl resin.

Claim 7 (Original): A method of producing an inductive device, comprising the steps of:

forming a plurality of band-shaped conductor patterns on front and rear surfaces of a plurality of organic core boards each having a core material and integrally laminating said plurality of organic core boards through electrically insulating layers to form a laminated board (lamination step);

slicing said laminated board obtained in the lamination step transversely with respect to said band-shaped conductor patterns to thereby form laminated sliced bodies (slicing step);

forming bridging conductor patterns on cut surfaces of each laminated sliced body obtained in the slicing step so that exposed end portions of said band-shaped conductor patterns on each of said cut surfaces of said laminated sliced body are connected to one another by said bridging conductor patterns (bridging conductor formation step); and

separating each laminated sliced body into individual chips so that each chip includes at least one helical coil formed from said band-shaped conductor patterns and said bridging conductor patterns (separation step).

Claim 8 (Original): A method of producing an inductive device, comprising the steps of:

forming a plurality of band-shaped conductor patterns and electrically insulating layers for covering said plurality of band-shaped conductor patterns on front and rear surfaces of a plurality of organic core boards each having a core material and integrally laminating said plurality of organic core boards through adhesive layers to form a laminated board (lamination step);

slicing said laminated board obtained in the lamination step transversely with respect to said band-shaped conductor patterns to thereby form laminated sliced bodies (slicing step);

forming bridging conductor patterns on cut surfaces of each laminated sliced body obtained in the slicing step so that exposed end portions of said band-shaped conductor patterns on each of said cut surfaces of said laminated sliced body are connected to one another by said bridging conductor patterns (bridging conductor formation step); and

separating each laminated sliced body into individual chips so that each chip includes at least one helical coil formed from said band-shaped conductor patterns and said bridging conductor patterns (separation step).

Claim 9 (Original): A method of producing an inductive device, comprising the steps of:

forming a plurality of band-shaped conductor patterns on a surface of each of a plurality of core boards and integrally laminating said plurality of core boards through electrically insulating layers to form a laminated board (lamination step);

slicing said laminated board obtained in the lamination step transversely with respect to said band-shaped conductor patterns to thereby form laminated sliced bodies (slicing step);

forming bridging conductor patterns on cut surfaces of each laminated sliced body obtained in the slicing step so that exposed end portions of said band-shaped conductor patterns on each of said cut surfaces of said laminated sliced body are connected to one another by said bridging conductor patterns (bridging conductor formation step); and

separating each laminated sliced body into individual chips so that each chip includes at least one helical coil formed from said band-shaped conductor patterns and said bridging conductor patterns (separation step).

Claim 10 (Original): A method of producing an inductive device, comprising the steps of:

forming a plurality of band-shaped conductor patterns and an electrically insulating layer for covering said plurality of band-shaped conductor patterns on a surface of each of a plurality of core boards and integrally laminating said plurality of core boards through adhesive layers to form a laminated board (lamination step);

slicing said laminated board obtained in the lamination step transversely with respect to said band-shaped conductor patterns to thereby form laminated sliced bodies (slicing step);

forming bridging conductor patterns on cut surfaces of each laminated sliced body obtained in the slicing step so that exposed end portions of said band-shaped conductor patterns on each of said cut surfaces of said laminated sliced body are connected to one another by said bridging conductor patterns (bridging conductor formation step); and

separating each laminated sliced body into individual chips so that each chip includes at least one helical coil formed from said band-shaped conductor patterns and said bridging conductor patterns (separation step).

Claim 11 (Original): A method of producing an inductive device according to any one of Claims 8 through 10, wherein each electrically insulating layer is polished to adjust the thickness of said inductive device.

Claim 12 (Original): A method of producing an inductive device according to Claim 9 or 10, wherein a surface of each core board on which said band-shaped conductor patterns are not provided is polished to adjust the thickness of said inductive device.

Claim 13 (Original): A method of producing an inductive device according to any one of Claims 7 through 10, wherein said cut surfaces of said laminated sliced bodies after the slicing step are polished to adjust the thickness of said inductive device.

Claim 14 (Original): A method of producing an inductive device according to any one of Claims 7 through 10, wherein said band-shaped conductor patterns are provided on each organic core board having said core material or on each core board by means of transferring.

Claim 15 (Original): An inductive device comprising:  
an inorganic sintered core board;  
a plurality of band-shaped conductor patterns formed on front and rear surfaces of said inorganic sintered core board; and  
bridging conductor patterns formed on cut surfaces of said inorganic sintered core board sliced transversely with respect to said band-shaped conductor patterns so that exposed end portions of said band-shaped conductor patterns on each of said cut surfaces of said

inorganic sintered core board are connected to one another by said bridging conductor patterns to thereby provide at least one helical coil.

Claim 16 (Original): An inductive device comprising:

an inorganic sintered core board;

a plurality of band-shaped conductor patterns formed on front and rear surfaces of said inorganic sintered core board;

electrically insulating layers formed on said front and rear surfaces of said inorganic sintered core board so that said band-shaped conductor patterns are covered with said electrically insulating layers; and

bridging conductor patterns formed on cut surfaces of said inorganic sintered core board sliced transversely with respect to said band-shaped conductor patterns so that exposed end portions of said band-shaped conductor patterns on each of said cut surfaces of said inorganic sintered core board are connected to one another by said bridging conductor patterns to thereby provide at least one helical coil.

Claim 17 (Original): An inductive device comprising:

a plurality of inorganic sintered core boards;

a plurality of band-shaped conductor patterns formed on a surface of each of said inorganic sintered core boards;

electrically insulating layers through which said plurality of inorganic sintered core boards are integrally laminated to form a laminated board; and

bridging conductor patterns formed on cut surfaces of said laminated board sliced transversely with respect to said band-shaped conductor patterns so that exposed end portions of said band-shaped conductor patterns on each of said cut surfaces of said laminated board

are connected to one another by said bridging conductor patterns to thereby provide at least one helical coil.

Claim 18 (Original): An inductive device comprising:

a plurality of inorganic sintered core boards;

a plurality of band-shaped conductor patterns formed on a surface of each of said inorganic sintered core boards;

an electrically insulating layer formed on said surface of each of said inorganic sintered core boards so that said band-shaped conductor patterns are covered with said electrically insulating layer;

adhesive layers through which said plurality of inorganic sintered core boards are integrally laminated to form a laminated board; and

bridging conductor patterns formed on cut surfaces of said laminated board sliced transversely with respect to said band-shaped conductor patterns so that exposed end portions of said band-shaped conductor patterns on each of said cut surfaces of said laminated board are connected to one another by said bridging conductor patterns to thereby provide at least one helical coil.

Claim 19 (Original): An inductive device according to any one of Claims 15 through 18, wherein a surface of each inorganic sintered core board on which said band-shaped conductor patterns are formed is smooth.

Claim 20 (Original): A method of producing an inductive device, comprising the steps of:



forming a plurality of band-shaped conductor patterns on front and rear surfaces of a plurality of inorganic sintered core boards and integrally laminating said plurality of inorganic sintered core boards through electrically insulating layers to form a laminated board (lamination step);

slicing said laminated board obtained in the lamination step transversely with respect to said band-shaped conductor patterns to thereby form laminated sliced bodies (slicing step);

forming bridging conductor patterns on cut surfaces of each laminated sliced body obtained in the slicing step so that exposed end portions of said band-shaped conductor patterns on each of said cut surfaces of said laminated sliced body are connected to one another by said bridging conductor patterns (bridging conductor formation step); and

separating each laminated sliced body into individual chips so that each chip includes at least one helical coil formed from said band-shaped conductor patterns and said bridging conductor patterns (separation step).

Claim 21 (Original): A method of producing an inductive device, comprising the steps of:

forming a plurality of band-shaped conductor patterns and electrically insulating layers for covering said plurality of band-shaped conductor patterns on front and rear surfaces of a plurality of inorganic sintered core boards and integrally laminating said plurality of inorganic sintered core boards through adhesive layers to form a laminated board (lamination step);

slicing said laminated board obtained in the lamination step transversely with respect to said band-shaped conductor patterns to thereby form laminated sliced bodies (slicing step);

forming bridging conductor patterns on cut surfaces of each laminated sliced body obtained in the slicing step so that exposed end portions of said band-shaped conductor

patterns on each of said cut surfaces of said laminated sliced body are connected to one another by said bridging conductor patterns (bridging conductor formation step); and  
separating each laminated sliced body into individual chips so that each chip includes at least one helical coil formed from said band-shaped conductor patterns and said bridging conductor patterns (separation step).

Claim 22 (Original): A method of producing an inductive device, comprising the steps of:

forming a plurality of band-shaped conductor patterns on a surface of each of a plurality of inorganic sintered core boards and integrally laminating said plurality of inorganic sintered core boards through electrically insulating layers to form a laminated board (lamination step);

slicing said laminated board obtained in the lamination step transversely with respect to said band-shaped conductor patterns to thereby form laminated sliced bodies (slicing step);

forming bridging conductor patterns on cut surfaces of each laminated sliced body obtained in the slicing step so that exposed end portions of said band-shaped conductor patterns on each of said cut surfaces of said laminated sliced body are connected to one another by said bridging conductor patterns (bridging conductor formation step); and

separating each laminated sliced body into individual chips so that each chip includes at least one helical coil formed from said band-shaped conductor patterns and said bridging conductor patterns (separation step).

Claim 23 (Original): A method of producing an inductive device, comprising the steps of:

forming a plurality of band-shaped conductor patterns and an electrically insulating layer for covering said plurality of band-shaped conductor patterns on a surface of each of a plurality of inorganic sintered core boards and integrally laminating said plurality of inorganic sintered core boards through adhesive layers to form a laminated board (lamination step);

slicing said laminated board obtained in the lamination step transversely with respect to said band-shaped conductor patterns to thereby form laminated sliced bodies (slicing step);

forming bridging conductor patterns on cut surfaces of each laminated sliced body obtained in the slicing step so that exposed end portions of said band-shaped conductor patterns on each of said cut surfaces of said laminated sliced body are connected to one another by said bridging conductor patterns (bridging conductor formation step); and

separating each laminated sliced body into individual chips so that each chip includes at least one helical coil formed from said band-shaped conductor patterns and said bridging conductor patterns (separation step).

Claim 24 (Original): A method of producing an inductive device, comprising the steps of:

forming a plurality of band-shaped conductor patterns on rear and front surfaces of organic core boards each having a core material and integrally laminating said organic core boards and inorganic sintered core boards alternately through electrically insulating adhesive layers to form a laminated board (lamination step);

slicing said laminated board obtained in the lamination step transversely with respect to said band-shaped conductor patterns to thereby form laminated sliced bodies (slicing step);

forming bridging conductor patterns on cut surfaces of each laminated sliced body obtained in the slicing step so that exposed end portions of said band-shaped conductor

patterns on each of said cut surfaces of said laminated sliced body are connected to one another by said bridging conductor patterns (bridging conductor formation step); and  
separating each laminated sliced body into individual chips so that each chip includes at least one helical coil formed from said band-shaped conductor patterns and said bridging conductor patterns (separation step).

Claim 25 (Original): A method of producing an inductive device according to any one of Claims 20 through 24, wherein each electrically insulating layer is polished to adjust the thickness of said inductive device.

Claim 26 (Original): A method of producing an inductive device according to Claim 22 or 23, wherein a surface of each inorganic sintered core board on which said band-shaped conductor patterns are not provided is polished to adjust the thickness of said inductive device.

Claim 27 (Original): A method of producing an inductive device according to any one of Claims 20 through 24, wherein said cut surfaces of said laminated sliced bodies after the slicing step are polished to adjust the thickness of said inductive device.

Claim 28 (Original): A method of producing an inductive device according to any one of Claims 20 through 24, wherein an inorganic sintered body used in each inorganic sintered core board is made of a porous ceramic substance.

Claim 29 (Original): A method of producing an inductive device according to any one of Claims 20 through 24, wherein an inorganic sintered body used in each inorganic sintered core board is made of a magnetic substance.

Claim 30 (New): An inductive device comprising:

a core board;

a plurality of conductive layers, each layer including a plurality of band-shaped conductor patterns formed on a surface of said core board;

bridging conductor patterns formed on cut surface of said core board sliced transversely with respect to said band-shaped conductor patterns so that exposed end portions of said band-shaped conductor patterns on each of said cut surface of said core board are connected to one another by said bridging conductor patterns to thereby provide at least one helical coil.

Claim 31 (New): The inductive device as claimed in claim 30, wherein said conductive layers are formed on front and rear surfaces of said core board.

Claim 32 (New): The inductive device as claimed in claim 30, wherein a plurality of core boards are provided, said conductive layer is formed on one surface of said core board, and the plural core boards are laminated through a insulating layer.

Claim 33 (New): The inductive device as claimed in claim 30, wherein said core board is inorganic sintered core board.

Claim 34 (New): The inductive device as claimed in claim 30, wherein said core board is an organic core board having filler.

Claim 35 (New): A method of producing an inductive device, comprising the steps of:

forming a plurality of band-shaped conductor patterns on at least one surface of each of core boards;

integrally laminating the core boards through electrically insulating layers to form a laminated board,

slicing said laminated board transversely with respect to said band-shaped conductor patterns;

forming bridging conductor patterns on cut surface of the sliced laminated board, so that exposed end portions of said band-shaped conductor patterns on the cut surface are connected one another by the bridging conductor patterns; and

separating into individual chips so that each chip includes at least one helical coil formed from the band-shaped conductor patterns and the bridging conductor patterns.